The opinion in support of the decision being entered today was **not** written for publication and is **not** binding precedent of the Board.

Paper No. 45

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte TOMOHIKO YAMAMOTO, YUKIO INABA,
GENJI KOGA, HIDEKI NOGUCHI,
and JOJI FUNATSU

Appeal No. 96-2322
Application No. 08/112,478

HEARD;
JULY 11, 2001

Before GARRIS, LIEBERMAN and TIMM, Administrative Patent Judges.

LIEBERMAN, Administrative Patent Judge.

DECISION ON APPEAL

This is an appeal under 35 U.S.C. § 134 from the decision of the examiner refusing to allow claims 2 through 5, 8 through 12, 14 and 15 as amended subsequent to the Final Rejection, which are all of the claims pending in this application.

THE INVENTION

The invention is directed to a process of producing oxamide, i.e., oxalic acid diamide. The process requires melting a starting material and reacting it with ammonia. The initial melt contains oxalic acid diester and the optional presence of limited amounts of aliphatic alcohol. During the reaction the content of the aliphatic alcohol is maintained within specified limits. The oxamide obtained from the reaction is directly dried from a wetted solid. Additional limitations are disclosed in the following illustrative claim.

THE CLAIM

Claim 14 is illustrative of appellants' invention and is reproduced below.

Claim 14. A process for producing oxamide comprising the step of:

(a) melting a starting material consisting essentially of 70 to 100% by weight of an oxalic acid diester of an aliphatic alcohol and 0 to 30% by weight of the same aliphatic alcohol as mentioned above;

(b) feed-mixing an ammonia-containing gas to the resulting melt of the starting material, while stirring, to start a reaction of the oxalic acid diester of the aliphatic alcohol with ammonia to produce oxamide and a by-product consisting of the aliphatic alcohol;

(c) continuing the feed-mixing procedure of the ammonia-containing gas under reaction conditions sufficient to convert said diester to oxamide and, while stirring, controlling the feed rate of ammonia, and evaporating and removing the aliphatic alcohol by-product from the reaction mixture to an

extent such that the content of the aliphatic alcohol in the reaction mixture is maintained at a level of 5 to 40% by weight to produce a reaction product mixture

containing the resulting oxamide and the aliphatic alcohol substantially free of oxalic acid monoestermonoamide, and wherein said reaction product mixture is in the state of a wetted solid without filtering it; and

(d) directly drying the reaction product mixture in the state of a wetted solid to remove the aliphatic alcohol from said wetted solid and recover said oxamide.

THE REFERENCES OF RECORD

As evidence of obviousness, the examiner relies upon the following references.

Nemec et al. (Nemec)	3, 296,303	Jan. 3, 1967
(Soviet Union 230808) (USSR '808)	230808	Mar. 17, 1969
Yamazaki (JP'916 Yamazaki) (Japanese Kokai)	52-7916	Jan. 21, 1977

THE REJECTION

Claims 2 through 5, 8 through 12, 14 and 15 stand rejected under 35 U.S.C. § 103 as unpatentable over JP '916 (Yamazaki) in view of Nemec and USSR '808.[1]

OPINION

[1]We rely on the English language translations of the Japanese and Soviet references provided by the USPTO and all page references are thereto .

We have carefully considered all of the arguments advanced by the appellants and the examiner and agree with the appellants that the rejection of claims 2 through 5, 8 through 12, 14 and 15 is not well founded. Accordingly, we reverse this rejection.

The Rejection under § 103(a)

"The examiner bears the initial burden, on review of the prior art or on any other ground, of presenting a *prima facie* case of unpatentability," whether on the grounds of anticipation or obviousness. **In re Oetiker**, 977 F.2d 1443, 1445, 24 USPQ2d 1443, 1444 (Fed. Cir. 1992). On the record before us, the examiner respectively relies upon a combination of references to Yamazaki, Nemec and USSR '808 to reject the claimed subject matter and establish a prima facie case of obviousness.

Yamazaki discloses a method for the preparation of oxamide from the reaction of oxalic acid diester and ammonia using aliphatic alcohol as a solvent. See pages 3 and 6. We find that there is no by-product of oxalic acid monoester monoamide. Id. Furthermore, we find that aliphatic alcohol is used as a solvent and is exemplified by alcohols having 1 to 6 carbon atoms. See page 5. Yamazaki discloses that both the oxalic acid diester and the aliphatic alcohol have the same alkyl group chain which allows for higher productivity. See page 6. We further find that Yamazaki discloses that the products formed have excellent filtering characteristics.

Yamazaki however, is lacking a disclosure of maintaining the content of the aliphatic alcohol at a level of 5 to 40% by weight during the course of the reaction as

required by the claimed subject matter. Furthermore, there is no disclosure in Yamazaki of "directly drying the reaction product." The reference, in contrast, specifically discloses a process step of filtering the oxamide to obtain the final product. See Operational Examples 1 through 9, pages 7 and 8. Although the examiner states that, "[g]etting product by wet solid or by filtering is certainly a physical phenomena which one of ordinary skill in the art can optimize by routine experimentation," Answer, page 6, in our view that conclusion depends upon the evidence present on the record before us with respect to that limitation. The only suggestion for direct drying and the consequent omission of the filtration step comes solely from appellants' specification. Accordingly, we conclude that there is no basis for the examiner's conclusion that obtaining a wet solid or filtering the product are equivalent procedural steps.

Since Yamazaki fails to disclose a limited amount of alcohol, the examiner relies upon Nemec to disclose an analogous process which is both continuous and is performed in the absence of alcohol. Nemec's process however, specifically excludes oxalic acid ester from the diesters disclosed therein. We find that Nemec requires that the number of carbon groups between two carboxylic acid amide groups must be at least two. See column 1, lines 13-28. In addition, as Nemec uses an ethylene glycol diester of an aliphatic dicarboxylic acid, the by-product obtained from the formation of amide is ethylene glycol as opposed to the aliphatic alcohol of the claimed subject matter. We further find that filtering and/or other purification steps of the product is uniformly

disclosed as requisite steps in Nemec's process. See column 2, lines 60-63 and Examples 1, 2, and 5 to 8.

Finally, the examiner relies on USSR '808 as teaching that alcohol is produced as a by-product of reacting dimethyl maleate with monoethanol amine. See Answer, page 4 and USSR '808, page 1. The reference however, is neither directed to an oxamide, nor utilizes ammonia in the reaction process.

Based upon the above considerations, even if the examiner was correct in combining Yamazaki, Nemec and USSR '808 in the manner described in the Answer, the omission by the prior art of maintaining the content of the aliphatic alcohol at a level of 5 to 40% by weight as required by the claimed subject matter and the presence of a filtration process required by each of the references of record would result in a process that falls short of the invention defined by the claimed subject matter. Stated otherwise, the aforesaid claimed subject matter requires features that cannot be achieved by combining the three references. Uniroyal, Inc. v. Rudkin-Wiley Corp., 837 F.2d 1044, 1051, 5 USPQ2d 1434, 1438 (Fed. Cir.), cert. denied, 488 U.S. 825 (1988). Accordingly, the examiner has not established a prima facie case of obviousness.

DECISION

The rejection of claims 2 through 5, 8 through 12, 14 and 15 under 35 U.S.C. § 103 as unpatentable over JP '916 (Yamazaki) in view of Nemec and USSR '808 is reversed.

The decision of the examiner is reversed.

REVERSED

BRADLEY R. GARRIS)
Administrative Patent Judge)
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) BOARD OF PATENT
PAUL LIEBERMAN) APPEALS
Administrative Patent Judge) AND
) INTERFERENCES
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CATHERINE TIMM)
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